arrangement to AT&T than Ameritech Michigan incurred to provide the arrangement to the third-party.

Each party offered language supporting its position on this issue to be incorporated as Section 30.13 of the interconnection agreement. The arbitration panel found that AT&T's proposed language should be adopted. Ameritech Michigan objects. According to Ameritech Michigan, the law and common sense require that AT&T must adopt the terms and conditions of an entire interconnection, service, or network element arrangement in another agreement as a package. Ameritech Michigan insists that Section 252(i) should not be interpreted to allow AT&T to pluck an individual term or condition from another interconnection agreement and simply plug it into its own interconnection agreement. In the alternative, Ameritech Michigan argues that the Commission could adopt neither party's language and allow them to pursue their differing interpretations of Section 252(i).

The Commission is persuaded that Ameritech Michigan's alternative resolution of this issue is appropriate and should be adopted. The proper interpretation of Section 252(i) of the FTA is a major issue that does not need to be addressed at this time. This is particularly true in light of the expedited nature of the interconnection agreement approval process. Therefore, Section 30.13 of the interconnection agreement should be excised.

Transiting

Transiting refers to the delivery of traffic between AT&T and a third-party local exchange carrier (LEC) by Ameritech Michigan through use of Ameritech Michigan's switches and local/ intraLATA trunks. Ameritech Michigan insists that nothing in the FTA or the FCC's First Report and Order requires it to provide transiting service. While Ameritech Michigan is willing

"The Flaws in Prof. Paul W. MacAvoy's Analysis Render His Conclusions Meaningless"

by

Marybeth M. Banks
Director, Federal Regulatory Affairs
Sprint Communications Company L.P.

THE FLAWS IN PROF. PAUL W. MACAVOY'S ANALYSIS RENDER HIS CONCLUSIONS MEANINGLESS

Marybeth M. Banks
Director, Federal Regulatory Affairs
Sprint Communications Company L.P.

To support its argument that its entry into the long distance market would be beneficial to consumers, Ameritech has submitted an affidavit by Professor Paul W. MacAvoy. Based upon a set of assumptions, MacAvoy attempts to calculate profit-cost margins for the top three long distance carriers to arrive at the conclusion that long distance service is not being provided under competitive market conditions (Affidavit at 4). Sprint sets forth herein the numerous factual flaws in this analysis, thereby rendering any conclusions invalid. Specifically, Professor MacAvoy has been given numbers that:

overstate the actual prices charged by the carriers, most especially in later years;

understate costs by ignoring substantial differences between the three carriers studied; and

ignore other significant circumstances essential to a critical understanding of the long distance market over this period of time.

These errors undermine any legitimate basis for helpful analysis. When even rough adjustments are made, the price-cost margins derived readily follow the HHI trend as predicted by MacAvoy for a competitive market. Other adjustments can and should be made, further invalidating the conclusions reached by MacAvoy. A close correlation with the HHI index is also obtained by substituting readily available overall revenue figures for the relevant period in lieu of incomplete and incorrect values for pricing.

At the outset, it is apparent that Professor MacAvoy faces substantial difficulty in urging that long distance service is not subject to competition. The indicia of an intense competitive struggle in the long distance industry are now long familiar, not only to those who make their living in telecommunications, but to all Americans. There are few who have not received calls, mass mailings and other solicitations (perhaps on street corners) and who have not been bombarded by full page newspaper ads and television commercials. Competition is also evidenced by the significant declines in concentration in the long distance industry. This trend strongly suggests that the long distance market is increasingly competitive. MacAvoy has not shown otherwise.

MacAvoy posits that, "all else equal," a decrease in the concentration of an industry should result in a decline in the price-cost margins.[1] His examination of the price-cost margins of the three major carriers, AT&T, MCI and Sprint, from 1987 through 1996 purports to show an increase in the price-cost margins and an inverse relationship with the decline in concentration measured by the Herfindahl-Hirschman Index ("HHI"). Such results, he claims, are "consistent only with the theory

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[1] Affidavit at 17. The price-cost margin is defined as the difference between the price and the marginal cost divided by the price.

that the major facilities-based carriers developed an ability over time to tacitly collude." (Affidavit at 6)

Fundamental to any price-cost margin analysis is the quality of the underlying pricing data. To make valid conclusions concerning the competitiveness of the long distance market, such data must fairly reflect the pricing activity of the market. Consequently, to test the hypothesis concerning market concentration of the long-distance industry (Affidavit at 19), as measured by the HHI and based on the carriers' total revenues and total access minutes,[2] comparable pricing information for the whole market should be used. In addition, the cost information must be accurate for each of the carriers in the analysis.

As discussed below, MacAvoy has selected for his analysis of Sprint (and by inference of AT&T and MCI as well) only a small subset of long distance products, some of which have not been offered to new customers for several years.[3] He has ignored the fact that competition has brought about the continual evolution of new products, as well as hundreds of promotions each year. By ignoring the existence of new products and promotions and by

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[2] Access minutes are generally measured as total originating and total terminating minutes. The only breakdown of total originating minutes which can be made is between toll free and non-toll free by separating out the 800 and 888 NPAs.

[3] As of the first quarter of 1995, Sprint WATS products, including Dial "1" WATS, Sprint Advanced WATS, Dial "1" WATS ADVANTAGE ("Switched Outbound WATS") and Ultra WATS ("Dedicated Outbound WATS") were no longer available to new customers, and as of October 1, 1994, Sprint's VPN service was no longer available for new customer subscription. As a matter of commercial practice, Sprint strongly encourages existing customers to convert to its newer products, although Sprint will accommodate customer requests to remain with any extant product.

focusing on products that now serve only a small minority of Sprint's customers, MacAvoy has introduced substantial bias into his price-cost analysis.

I. MACAVOY'S PRICING DATA REFLECT ONLY A NON-REPRESENTATIVE FRACTION OF THE LONG DISTANCE MARKET AND ARE OTHERWISE FLAWED.

It is important to an analysis of market competitiveness to understand the current long distance market and how it has changed over the last decade. The market is now characterized by a plethora of products and promotions for both residential and business customers. In this competitive marketplace, Sprint, like other long distance carriers, is continually introducing new products, features and promotions to attract new customers and to retain its existing customers.[4] Customers are generally well

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[4] In January 1992, Sprint introduced its new business product, Sprint Clarity®, for the small- to medium-sized business market. Sprint Clarity®, which was designed to replace the old WATS and 800 products, integrates switched and dedicated access for both inbound and outbound service and switched data service. It has a simpler rate structure and enhanced features and billing capabilities. In addition, customers are afforded greater volume discounts because all services contribute to achieve a higher volume.

Sprint also offers significant volume and term discounts. Sprint's business communications services now include other new products, such as The Most for Business(sm), Sprint Premiere(sm), Real Solutions(sm), and Business Sense®. Sprint's Business Sense® Free Fridays promotions, which offer free long distance service on Fridays, has been selected by a substantial percentage of Sprint's customers.

In early 1995, Sprint introduced its new flagship residential service, Sprint Sense, a flat-rated product featuring 10 cents a minute for off-peak periods (7pm to 7am, Monday-Friday, and all hours Saturday and Sunday) that has no fixed monthly charge and no minimum monthly usage requirement. Sprint aware of new products and promotions because they are heavily advertised over mass media, and the carriers emphasize the cost savings of their products over those of their competitors. Price-sensitive customers will move to the products and promotions offering them the lowest prices and will thereby benefit from the products generated by long distance competition.

In his analysis, MacAvoy violates accepted methodologies for tracking prices. There are, of course, well established and accepted ways of measuring price changes over time and as consumers switch from one product to another, such as price indexes of all products weighted by usage, but these have been ignored by MacAvoy. Rather, he has simply picked products to analyze without apparent consideration of their maturity and continued utilization. As a result, his analysis fails to use an accurate selection of product and promotional offerings, and his results are skewed accordingly.

For Sprint services, he omits the most heavily used and the most competitive products in evaluating the price-cost margin. For residential service, MacAvoy relied on the oldest and highest priced product, commonly referred to as MTS (Message Telephone

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has offered Sprint Sense promotions, such as offering the off-peak rate for all calls to the number called most frequently, and has developed numerous international calling plans and associated products.

Previously, Sprint's major product was The Most which offered a discount to the number called the most and to other Sprint subscribers. Similarly, over time, additional products and promotions were offered with The Most. At its peak, over one million customers subscribed to The Most.

Service), and two early Sprint optional calling plans.[5] These three products are subscribed to by less than a quarter of Sprint's residential and small business customers.

Sprint's Dial 1 (MTS) product forms the basis for MacAvoy's MTS price-cost margin analysis for Sprint (Affidavit, Figure Thirteen, page 33). As shown in Sprint's Figure 1, the average Sprint Dial 1 rates are significantly higher than Sprint's competitive products, The Most and Sprint Sense. Although wholly unaccounted for in the MacAvoy analysis, the majority of Sprint's residential customers currently subscribe to Sprint Sense.

Similarly, for small- to medium-sized business customers, MacAvoy selected for his analysis one of Sprint's oldest products, Dial 1 WATS Advantage. This product has not been available to new subscribers for approximately two years. As shown in Sprint's Figures 2 and 3, the rates for Dial 1 WATS Advantage are considerably higher than for Sprint's most competitive product, Business Sense. Again, although wholly absent from the analysis, Business Sense, with its Fridays Free promotion, is Sprint's most popular business product.

A virtual continuum of rates is available to larger business customers under the contract tariffs which afford customers the opportunity to negotiate rates, terms and conditions with the carriers. In 1991, the Commission allowed AT&T and other

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5 Sprint Select Day Plan and Sprint Plus were introduced in 1989 and 1991, respectively.

interexchange carriers to offer service under contract tariffs. 6 FCC Rcd 5880 (1991). Since that time, Sprint has filed approximately 1,600 contract tariffs (Custom Network Service Arrangements), and AT&T has filed over 7,000. Substantial volumes of traffic are now carried at these contract rates. Any analysis of the competitiveness of the long distance market which ignores this critical factor is fatally flawed.

Contract tariffs provide rates below those of the standard tariff offerings (generally in the form of discounts, flat-rate pricing, or waivers of charges) and alternative terms and conditions which may be important to customers. For example, Sprint recently tariffed rates for Sprint Clarity customers (that meet certain requirements) at approximately 7 cents for dedicated outbound and toll free services and 10 cents for switched outbound and toll free service. (See, e.g., Sprint Tariff F.C.C. No. 12, Option 1328). Such rates, which reflect the especially robust business market segment, are far closer to MacAvoy's estimates of marginal costs -- 4 cents for dedicated and 7 cents for switched services - than the numbers MacAvoy relies upon.

By using only Sprint's older products which are generally not actively marketed and many of which are no longer available to new customers, MacAvoy has used in his price-cost margin analysis the highest priced products with generally low subscribership and low volumes of usage. As customers move from the older products to the newer ones which are more competitively priced, their prices are allowed to rise (an increase that becomes largely academic) as they are gradually withdrawn from the market. As discussed below, MacAvoy would have very different results if he had used the products with the most usage and subscribers.

MacAvoy offers neither explanation nor justification for his failure to include Sprint's most popular, competitive products. The numbers used likely reflect the relative ease of tracking pricing over time in this manner, but one is not free to ignore usage or popularity of products and still claim to have provided an accurate measure of prevailing prices. Moreover, there is every indication that MacAvoy's failure to reflect Sprint's major competitive offerings was repeated in the case of AT&T's and MCI's services. MacAvoy attempts to rectify this critical flaw by including in this affidavit an analysis of additional discount calling plans. (Affidavit at 54-61) However, the offerings he selected for Sprint do not accurately reflect its current offerings or the ones subscribed to by the majority of Sprint's customers.

MacAvoy has revised his original affidavit submitted January 2, 1997 to add a discussion of "flat-rate discounts" offered by AT&T, MCI and Sprint. (Affidavit at 50) He attributes one such product to Sprint. In what is indicative of more fundamental wrong. MacAvoy calls Sprint's flat-rated offering "*Dime a Minute*." The correct name for the service is Sprint Sense. He states that "[u]nder this plan, a Sprint customer pays the standard MTS price during the day and night/weekend time period, but pays $0.10 per minute for all calls made during the evening period." (Affidavit at 50) Sprint Sense, however, offers 10 cents a minute for calls placed during the off-peak period (7pm to 7am, Monday-Friday, and all hours Saturday and Sunday) and 25 cents during the peak period. After getting the wrong facts, MacAvoy compounds the problem by completely ignoring Sprint Sense and the promotions offered with it in his analysis.

MacAvoy also refers to another product, "Sprint Residential Promotion," which he uses in Figures Twenty-three and Twenty-six. Here again, MacAvoy uses the wrong name for the product which is called "The Most II" and which offers volume-based discounts. Only a few percent of Sprint's residential customers subscribe to The Most II. The Sprint Plus product also used in these figures has even fewer customers.

MacAvoy's additional analysis of "flat-rate discounts" is no more helpful in the case of Sprint than his initial work. After recognizing Sprint Sense, MacAvoy ignores it. Thus, once again, he focuses on products used by only a small fraction of Sprint's customers.

The effect of these errors is to completely distort the price-cost margin in the last five years. The use of the accurate prices for the competitive products actually subscribed to by most customers materially decreases the resulting price-cost margins. Given the magnitude of the differential in prices between MacAvoy's selected products and the most competitive products, the pattern of these price-cost margins would have been completely different if based on accurate information: the price-cost margins would be flat or decline over time. As shown in Sprint's Figures 4 and 5, the result shows the consistency between the HHI and the price-cost margins, and a validation that competition exists in the long distance industry.

MacAvoy recognized that few customers subscribe to the outbound switched WATS products he used and that "the use of outbound switched WATS service declined by a factor of ten during the period 1991-1995." (Affidavit at 37, fn. 29) Because of the minimal use of this product, MacAvoy said he could not compute an HHI concentration index. (Id.) Despite his knowledge that this product was outdated and that the number of customers on it had dropped drastically (presumably because other lower-priced products were available), MacAvoy nevertheless drew the invalid conclusion that the price-cost margins are inconsistent with increased competition. (Affidavit at 38) Given the very low usage on the other products he used in his analysis (such as MTS), the use of an HHI concentration index based on the total originating access minutes[6] and conclusions based thereon are equally invalid. (Affidavit at 15, Table Four)

Evidence that price-cost margin results would be sharply different had a proper selection of products been made is provided by MacAvoy's discount plan price-cost analysis and his sensitivity analysis of weightings by customer and volume weights. As shown in Figures Twenty-five and Twenty-six, the price-cost margins for the discount calling plans differ from those for MTS service by as much as 17.5 for MCI and 12.5 for Sprint in 1995. The slope of the price-cost margins is flattened substantially across the study period (1987-1995).[7] The impact of the product selection on price-cost margins is also

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[6] MacAvoy misleadingly refers to the HHI in the MTS market in Table Four. No distinction can be made by the local exchange carrier of non-toll free originating access minutes among the products using originating switched access. All non-toll free switched access products have the same dialing sequence (i.e., 1 + NPA + NXX XXXX), and the local exchange carrier cannot distinguish, for example, Sprint's MTS calls from its Sprint Sense calls from its Sprint Clarity switched access calls. In addition, for toll free services (referred to by MacAvoy as "inbound WATS"), the local exchange company cannot distinguish between the switched and dedicated toll free products because it has no visibility as to the access used to terminate the call, nor can it distinguish among the numerous toll free products offered by the long distance companies. Thus, MacAvoy's statement that the "HHI can be estimated also for two individual products, MTS and inbound WATS" (Affidavit at 15) is simply wrong.

[7] There has been a significant change in the price-cost margin analysis in Appendix A, Figures Fourteen and Fifteen for Sprint since MacAvoy's January 2, 1997 affidavit. Specifically, the price-cost margins for "Standard MTS Service" have dropped by 10 to 15 percentage points. Since the underlying data for this product should be the same, some explanation of these major shifts is warranted.

demonstrated by a comparison of the discount plans used in the current affidavit versus the ones used in the January 2, 1997 affidavit. For example, in Appendix A, Figures Twelve and Thirteen for MCI, there is almost no change in the price-cost margins in the January 2 affidavit, while there is a very large difference in the figures in the current affidavit. Had MacAvoy used Sprint's most competitive products with the highest usage, the price-cost margins would certainly have flattened and would likely have decreased. Sprint recognizes it would be a more difficult task to determine which carrier's products have the most competitive pricing and the most usage over time. However, absent this information, the exercise is worthless.

Even when using the correct products, further refinement is necessary. An analysis of the base product prices will not be complete because many promotions offer goods and services or free long distance service, rather than a discount off the tariffed rate or a different rate. For example, Sprint has offered its Sprint Priority Rewards Program (sm) which awards points which can be redeemed for a variety of long distance, travel and entertainment rewards, Sprint Double Credit Promotion which offers two free months of service, Sprint Triple Credit Promotion which offered three free months of service, and Split the Weekend Promotion which offered The Most subscribers a 50% discount on weekend calls. The impact of these types of discounts cannot be determined from the tariff. Nevertheless, they represent competitive responses which should have been reflected in the price-cost analysis.

In order to overcome the problems associated with properly reflecting all products and promotional offerings, Sprint has examined the price-cost margins based on total revenue for interstate direct distance dialing (DDD) services. This is a far superior method for measuring trends than that used by MacAvoy. Using the FCC's estimate of "Billed Revenue per Interstate DDD Minute" for all carriers filing TRS reports[8] for price and "Cost of Interstate Access per 2 ended minute" plus MacAvoy's assumed incremental network cost of $0.01 for marginal cost, Sprint has calculated the price-cost margins from 1992 to 1995.[9] In

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8 "Telecommunications Industry Revenue: TRS Fund Worksheet Data," December 1996, Jim Lande, Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, Figure 3.

9 MacAvoy attempts to show that the lower average revenue per minute ("ARPM") reported by the FCC is attributable only to lower business rates, not residential rates. He makes the unsubstantiated assertion that a greater use of WATS service with dedicated originating access relative to MTS service increased terminating minutes and lowered the average revenue per minute for all services. He concludes: "Thus, this observed reduction in ARPM likely does not reflect price reductions by long-distance carriers and, therefore, should not be interpreted as indicating that residential customers paid lower rates for MTS service." (Affidavit at A-16) MacAvoy's conjectures here are wrong again. Both business and residential customers are continually being offered lower priced services, as shown in Sprint's Figures 1, 2 and 3. Further, MacAvoy offers no support for his conclusion that the reduction in average revenue per minute "does not reflect price reductions by long-distance carriers…" Apparently, he is attributing all lowered revenue to business customers switching to dedicated access taken directly from the local

Sprint's Figure 6 these price-cost margins have been plotted against MacAvoy's HHI for MTS service in the U.S. (Affidavit at 15, Table Four) For these recent time periods, the price-cost margins track the HHI. Not surprisingly, this result is consistent with all other indications that the long distance market performs competitively. The result thus also supports the hypothesis that "[i]f market concentration, as measured by the HHI, declines, all else constant, price-cost margins decline (market becomes "more competitive")." (MacAvoy's first hypothesis, Affidavit at 19).

MacAvoy's restricted selection of products leads him to incorrect conclusions. For example, MacAvoy states that "a single price net of differences in costs should be calculated for all callers because, in fact, <u>all of these callers pay the same tariff rate for the same call</u>." (Affidavit at A-37, emphasis added). This statement is simply wrong. All callers do not pay the same tariff rate for the same call. The rate is based on the product and promotion to which the customer subscribes. Thus, a residential caller can subscribe to Sprint Sense, Sprint Plus, or The Most or MTS and can pay from 10 cents per minute to 30 cents per minute for a 1911-3000 mile call. Similarly, as shown in Figures 1-3, rates vary significantly for the low volume business

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exchange company, thereby lowering the interexchange carriers' revenues. However, interexchange carriers offer customers dedicated access under their tariffs, and therefore the revenue for such services is reflected in the interexchange carriers' reported revenues.

customer. While MacAvoy used Dial 1 WATS Advantage rates in his analysis of Sprint customers, these customers could subscribe to other products which would have afforded them service at a fraction of the price of Dial 1 WATS Advantage.

MacAvoy found that "[o]ver 60 percent of MTS customers could not receive the lower prices in MTS discount plans, since their monthly usage levels were too low to qualify them for discounts." (Affidavit at 46) MacAvoy's finding here is simply wrong because he assumes that all discount plans are based on volume. He has ignored the very popular, lower priced offerings, such as Sprint Sense and Business Sense, which are not volume-based. He has also ignored promotions which effectively yield lower prices by giving away specified amounts of Sprint's services and other products. As noted, these are Sprint's most popular business and residential products, and account respectively for the majority of Sprint residential and business users.[10] Thus, MacAvoy's analysis of discount plans is based on incorrect assumptions and incorrect data. His conclusions based on such data suffer correspondingly. Moreover, as discussed in the next section his price data problems are aggravated by the use of inaccurate cost data.

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[10] This same error leads MacAvoy to conclude that the rate changes made in late 1996 "involve rate increases approximating six percent on most consumer calls." (Affidavit at 8) Since "most consumer calls" for Sprint customers occurred via Sprint Sense and Business Sense and Business MTS, his statement is flatly wrong.

II. MACAVOY'S COST DATA FAIL TO ACCOUNT FOR ALL COSTS AND FOR DIFFERENCES AMONG THE CARRIERS.

In order to properly conduct a price-cost margin analysis, costs must also be accurately estimated. MacAvoy has used the simple average of the Carrier Common Line and Switched Transport charges paid by all carriers for "Premium" service and has failed to consider differences in the costs among carriers. Other relevant costs are not included. MacAvoy's oversimplification of costs renders his analysis invalid.

To test his hypotheses, MacAvoy required data on the marginal costs of long distance service. He relied in large part on information on access costs produced by the FCC. In its "Monitoring Report" in CC Docket No. 87-339, the FCC develops a "National Average of Interstate Access Charges (Switched 'Premium' Service in Cents per Minute)," Table 5.12. MacAvoy has misstated the trend in total interexchange carrier access costs, and more specifically, in those costs of interexchange carriers other than AT&T.

In the early years of the study period, long-distance carriers other than AT&T (referred to at the time as "OCCs" or Other Common Carriers) paid non-premium access rates while AT&T paid "premium" rates. However, MacAvoy uses only premium rates during the entire study period. While the local exchange companies were converting to equal access, the OCCs were paying transitional access charges (45% of the premium rates) which reflected the lower quality of service they were afforded. As of December 1987, 75.9% of all telephone lines had been converted to equal access, and by December 1990, 90.6%.[11] Thus, particularly during the first few years of his analysis, MacAvoy has misstated the trend in costs for the interexchange carriers by overstating the access charges paid by MCI and Sprint in the early years of the period. This overstatement of cost in the price-cost margin analysis results in an understatement of the price-cost margin in the initial years of the analysis which in turn mistakenly portrays an upward trend in the price-cost margins over the study period. As shown in Sprint's Figure 7, once the non-premium costs are accurately reflected in the analysis, the price-cost margin in the initial years becomes significantly higher, thereby flattening out the trend lines.

MacAvoy's averaged cost estimates also fail to reflect the lower switched access unit cost which AT&T enjoys due to its larger call volumes. Because of its higher volumes, AT&T has historically taken greater advantage of LEC term and volume discounts which favor the largest carrier. It was also able to take advantage of high volume fiber rings in major metropolitan areas to reduce its transport expenses earlier than its

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[11] Telephone Lines and Offices Converted To Equal Access, Industry Analysis Division, October 1995, Table 1. Also, the number of non-premium minutes is provided in the F.C.C.'s "Long Distance Market Shares, Fourth Quarter 1996," Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, March 1997. From 1986 through 1990, non-premium minutes represented 34%, 20%, 12%, 8% and 6% of the minutes of carriers other than AT&T. (Tables 1 and 2).

competitors. A higher percentage of its usage is placed over DS3 Direct Trunked Transport to end offices and between Serving Wire Centers and Access Tandems. Finally, because it has more points of presence ("POPs), it pays less for transport. Because of these differences, AT&T's per unit access charges are lower than those of its competitors. If these differences had been reflected in MacAvoy's analysis, Sprint and MCI's costs would be higher and, again, the pattern of their price-cost margins would be flatter.

MacAvoy's analysis appears to suggest that competition is absent from the long distance industry because price-cost margins have not been driven to zero. This suggestion plainly assumes that competition would have been expected to drive margins to zero. This is simply not the case. Especially given the presence of substantial fixed costs for this industry, economic analysis would readily predict margins sufficient to recover these fixed costs. The fixed costs facing this industry include network maintenance, non-volume sensitive marketing and sales, billing and collection, research and development, customer service, and fraud prevention. The need to recover these significant fixed costs necessarily means that profit margins will not be driven to zero even in a fully competitive environment.

Further, increases in fixed costs perfectly consistent with a competitive market are not accounted for in measures of price-cost margins based upon marginal costs. Thus, an upsurge in promotion and marketing to capture greater market share would result in increased fixed costs not reflected in any tracking of price- (marginal) cost margin trends. This is, of course, exactly what has happened in the long distance industry over the study period.

Consideration of increases in non-marginal costs is thus necessary to get the full picture. MacAvoy correctly states that price-cost margin increases are predictive only by holding everything else equal.[12] As noted, all else is not equal. By way of example, governmentally imposed costs, in particular payments for the Universal Service Fund ("USF") and Lifeline and Link-Up Programs, have increased threefold over the time period under study by MacAvoy.[13] Other non-marginal cost increases have been substantial and thus must be accounted for. Most especially, as noted above, promotional and marketing costs reflecting vigorous competition for market share have increased.

In addition to these fixed cost increases, other significant aspects of the long distance industry over this critical time

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[12] See Affidavit at 19 ("price-cost margins should decline as concentration declines, all else equal, for markets to become more competitive"; "price-cost margins at a point in time should be lower in markets with lower concentration, for those markets to be more competitive, all else equal"). This qualifier attaches throughout the MacAvoy affidavit, without examination or explication.

[13] For the last six months of 1989, the approximate billing for the USF and Lifeline and Link-Up Programs was $158.1 million; the FCC has estimated the billings for the first half of 1997 to be $490.14 million. "Monitoring Report," CC Docket No. 87-339, May 1997 at Table 5.15. In addition, since 1993 carriers have been required to pay for Telecommunications Relay Service ("TRS") based on their gross revenues.

juncture are omitted. The absence of equal access, of course, was far more than a cost issue; AT&T's competitors had to work strenuously to bring about the dramatic changes in customer perceptions left by the Bell System monopoly legacy. AT&T thus enjoyed a significant premium in the early years of the study period.[14] At this same time, heavy network investment was required throughout the late 1980s by all facilities-based long distance competitors. And as noted above, AT&T continues to be able to achieve scale economies not fully enjoyed by its smaller competitors. All of these factors strongly suggest the woeful incompleteness of MacAvoy's circumscribed data analysis.

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14 AT&T's competitors had to price significantly below AT&T in order to attract market share. Consumers were concerned about the reliability of the service. Many associated OCCs with an inferior product, especially as additional digits had to be dialed to reach the OCCs because of the inferior access initially afforded the OCCs. In addition, there was no number portability for 800 services and AT&T had joint calling cards with the RBOCs.

III. THE INCREASING DECONCENTRATION OF THE LONG DISTANCE MARKET PROVIDES IMPORTANT EVIDENCE OF COMPETITION

Professor MacAvoy concedes that the trends in HHI for the long distance market reveals significant deconcentration. However, he attempts to dismiss the significance of this deconcentration by arguing that "[I]n a competitive market, share losses result from initiatives to make gains by one or other of the leading carriers at the expense of the rest," and that, in this case, the stability of Sprint's and MCI's market share vis-a-vis AT&T's losses is inconsistent with a competitive market. (Affidavit at 13).

It is unclear why competition would not be evidenced by share losses suffered by one or more of the "leading carriers" at the hands of market competitors that are not classified as "leading carriers." Certainly the HHI index itself makes no distinction as to market shifts between "leading" and "non-leading" carriers. There is no dispute here that the major loss of market share has occurred and is continuing to occur at the expense of the former dominant provider, AT&T. The fact that in recent years this loss has been primarily to WorldCom and other smaller carriers, rather than MCI or Sprint, does not suggest that the long distance market is therefore less competitive. On the contrary, the absorption of AT&T's loss by newer, smaller carriers suggests even more decentralization than would be the case if the losses were to other, "leading" carriers. The extremely rapid growth of "non-leading" carriers enables them to exert increasing competitive pressure on the largest carriers in the market and makes it impossible to regard the long distance market as a three carrier oligopoly subject to collusion.

Thus, the long distance market is not characterized by hundreds of interexchange carriers and resellers, 390 of which filed 1995 TRS Fund Worksheets with revenues of approximately $75 billion.[15] The FCC has also reported the market share of carriers other than AT&T, MCI and Sprint based on revenues reported to shareholders to be 20.5% as of the fourth quarter of 1996.

Based on the FCC data, AT&T's market share is currently eroding at approximately one percentage point per quarter. This rate of erosion is the greatest AT&T has experienced since 1986 when equal access was being implemented. Despite readily observable attempts to stem the erosion with new competitive products such as One Rate, One Rate Plus and True Reach, winback promotions and promotions available only to customers who confirm that they have been approached by another carrier, and despite spending 35% of its revenue to win and retain customers,[16] AT&T has been unable to staunch its loss of substantial market share. AT&T's market share based on minutes has dropped to 52.1 percent (1996 Fourth Quarter). If there is collusion, AT&T has been colluding in its own fall from dominance.

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[15] "Telecommunications Industry Review, TRS Fund Worksheet Data," Tables 1, 6 and 7.

[16] "AT&T Attacks Bell South and USTA Claims on Long Distance Pricing, Communications Daily, January 29, 1997, p.3.

Moreover, MacAvoy's division of the long distance market into leading carriers - AT&T, MCI and Sprint - is completely arbitrary. WorldCom now has approximately 5% of the market and $1.234 billion in revenue per quarter. It is a large company by any standard even for telecommunications. In either absolute or percentage terms it is far closer in size to Sprint than Sprint is to the number two carrier, MCI.

Finally, MacAvoy is also wrong in claiming that relative market shares of the three largest carriers have remained static. The information provided Professor MacAvoy by Ameritech shows a 20% increase of market share in the last seven years. This is in marked contrast to the substantial declines suffered by AT&T during the same period. Although Sprint did not increase its market share for a number of years (Sprint, nevertheless, enjoyed significant growth just because the long distance market itself was growing), its market share did increase relative to AT&T's. In 1996, Sprint's market share began to trend upwards on an absolute basis as well. Thus, in 1996, Sprint increased minutes by 20% and revenue by 14% -- both figures substantially in excess of market growth as a whole.

IV. CONCLUSION

In summary, MacAvoy's analysis does not withstand scrutiny. It reflects an unrepresentative and distorted selection of the carriers' products and an oversimplified estimation of their costs. Further, his conclusions, which are not consistent with a realistic view of the long distance market, fail to account for